Section C.

C.1 Specifications for USDA APHIS Sheep Genotype Testing for PrP Codons 136,154, and 171

The USDA APHIS/VS intends to acquire the services of two or more laboratories to perform genetic testing of the encoded amino acid at codons 136, 154, and 171 within the gene controlling the structure of the prion protein. Codon 171 appears to be the principal determinant of scrapie resistance for U.S. sheep genotypes and scrapie strains. Most of the genotype testing will involve this codon.

C. 2 General Specifications:

Prior to consideration for the provision of these contract services, each candidate laboratory must comply with the regulations and policies set forth in 9 CFR 54.11 and applicable USDA APHIS VS Memorandum which outline the steps needed for laboratory approval to conduct these official genotype tests. This memorandum is presented as an attachment noted in Section J.

C.3 Procedures and Activities Expected from the Provider of these Services:

- Receive electronic and/or hard copy sample submission data
- Scan and record bar coded and/or alpha numeric sample identification
- Accurately enter animal identification and other field data into a relational database and securely store and transmit that data in an electronic format
- Safely handle and properly store biological specimens (blood and other tissues) and properly dispose of biological waste
- Extract DNA from blood cells and other tissues in a manner that precludes cross contamination of the DNA samples
- Amplification of specific DNA segments by polymerase chain reaction (PCR) or other comparable procedures to adequately identify specific DNA segments or markers
- Conduct specific procedures for the identification of the amino acids coded by codons 136, 154, 171 of both strands of the appropriate genetic material. Labs may be selected that can only conduct codon 171 or codons 171 and 136 testing.
- Recording the genotype of each sample for the markers of interest
- Transmit and archive the data in electronic format
- Cryogenic storage of unused DNA from each animal tested for a minimum of 5 years with minimal risk of cross contamination and to ensure secure preservation
- Be capable of a daily sample throughput rate in excess of 300 samples with the results reported within 5 business days
- Preference will be based on demonstrated ability to perform required tests, cost, capacity and reporting time.

C.4 Quality Control

Bidders will set forth a quality control program, as specified in the previously referenced Memorandum, and submit to periodic blinded quality control check tests and inspections by NVSL.